

REMARKS

The application has been reviewed in light of the final Office Action dated December 26, 2007. Claims 1-10 are pending. By this Amendment, claims 1, 4, 6 and 10 have been amended to clarify the claimed subject matter. Accordingly, claims 1-10 are presented for reconsideration, with claims 1 and 6 being in independent form.

Claims 1, 4-8 and 10 were provisionally rejected on the ground of nonstatutory obviousness-type double patenting as purportedly unpatentable over claims 1, 2, 4-8, 10 and 11 of co-pending U.S. Application No. 10/555,456.

A Terminal Disclaimer and payment of the \$130.00 statutory disclaimer fee were submitted with the Amendment filed on October 9, 2007, and receipt of the terminal disclaimer was acknowledged in the December 26, 2007 Office Action.

Applicant respectfully submits that the Terminal Disclaimer obviates the nonstatutory obviousness-type double patenting rejection, and request withdrawal of the nonstatutory obviousness-type double patenting rejection.

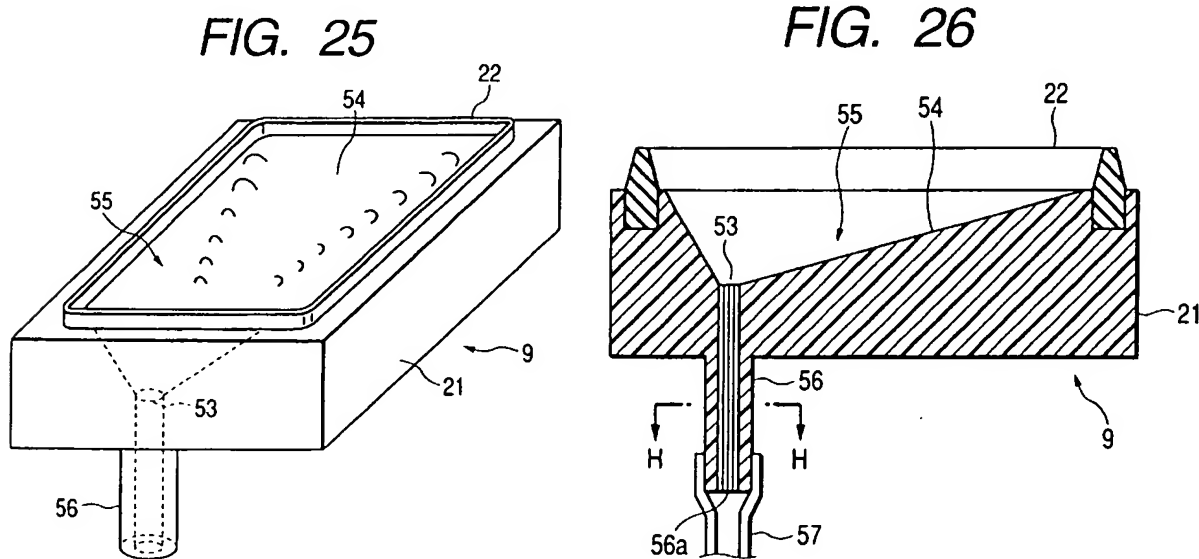
Claims 1 and 6 were rejected under 35 U.S.C. § 102(b) as purportedly anticipated by U.S. Patent No. 6,481,826 to Hara et al. Claims 2-5 and 8-10 were rejected under 35 U.S.C. § 103(a) as purportedly unpatentable over Hara. Claim 7 was rejected under 35 U.S.C. § 103(a) as purportedly unpatentable over Hara in view of U.S. Patent No. 6,695,443 to Arita et al.

This application relates to an improved configuration devised by applicant for a maintenance/recovery device for a liquid discharge device for discharging a droplet of a recording liquid.

In an aspect of the present application, a maintenance/recovery device comprises a contact member provided in a cap member (which covers a surface of a nozzle of a liquid

discharging head) to come in contact with the surface of the nozzle, and a recess-forming member providing in the cap member to form a recess for receiving the recording liquid attracted from the nozzle. The recess-forming member comprises a plurality of slopes providing respective inclined surfaces toward an outlet at a bottom of the recess from an entire circumference of an opening part of the cap member, with each of the inclined surfaces forming an inclination angle equal to or larger than 20 degrees with respect to a horizontal plane. Such a maintenance/recovery device has superior ink-discharge characteristics, as applicant found through substantial investigation and development (see, for example, Tables 1 through 3 on pages 36-38 and Tables 4-6 on pages 39-41 of the present application, and Figs 9 and 10).

Hara, as understood by Applicant, proposes a capping unit including an opening for sealing a nozzle formation face (bearing nozzle orifices) of the ink jet recording head and sucking ink from the nozzle orifices into an internal space by negative pressure generated by a negative pressure generator. Figs. 25 and 26 (reproduced below) of Hara which were cited in the Office Action shows respective views of such a capping unit:



Capping unit 9 shown in Figs. 25 and 26 of Hara includes a cap member 22 attached to a

top face of a holder 21 which is formed with a taper-like space 55 having a slope 54 shrunk continuously from an opening in the cap member 22 to ink discharge port 53.

However, the slope 54 in Fig. 26 of Hara forms approximately a 15 degree angle relative to the horizontal surface. Hara does not teach or suggest that the slope can or should be configured to form an angle greater than that shown in Fig. 26 thereof.

Hara simply does not disclose or suggest a maintenance/recovery device comprising a contact member provided in a cap member to come in contact with the surface of the nozzle, and a recess-forming member providing in the cap member to form a recess for receiving the recording liquid attracted from the nozzle, wherein the recess-forming member comprises a plurality of slopes providing respective inclined surfaces toward an outlet at a bottom of the recess from an entire circumference of an opening part of the cap member, with *each of the inclined surfaces forming an inclination angle equal to or larger than 20 degrees with respect to a horizontal plane*, as provided by the subject matter of claim 1 of the present application.

Arita, as understood by Applicant, proposes an ink of a specified constitution, that is, including (1) at least one humectant selected from glycerin, 1,3-butandiol, triethyleneglycol, 1,6-hexanediol, propyleneglycol, 1,5-pentanediol, diethyleneglycol, dipropyleneglycol, trimethylolpropane and trimethylolethane, (2) colorant contained in the amount of 6% by weight or more, (3) a polyol having 8 to 11 carbon atoms and glycolether, and an anionic surfactants or non-ionic surfactants, the ink has viscosity of 5 mPa·s or more at 25° C. and a surface tension of 40 mN/m or less.

Applicant does not find teaching or suggestion in the cited art, however, of a maintenance/recovery device comprising a contact member provided in a cap member to come in contact with the surface of the nozzle, and a recess-forming member providing in the cap

member to form a recess for receiving the recording liquid attracted from the nozzle, wherein the recess-forming member comprises a plurality of slopes providing respective inclined surfaces toward an outlet at a bottom of the recess from an entire circumference of an opening part of the cap member, with *each of the inclined surfaces forming an inclination angle equal to or larger than 20 degrees with respect to a horizontal plane*, as provided by the subject matter of claim 1 of the present application.

Independent claim 6 is patentably distinct from the cited art for at least similar reasons.

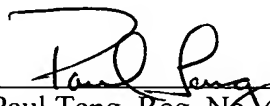
Accordingly, for at least the above-stated reasons, Applicant respectfully submits that independent claims 1 and 6 and the claims depending therefrom are patentable over the cited art.

In view of the remarks hereinabove, Applicant submits that the application is now in condition for allowance, and earnestly solicits the allowance of the application.

If a petition for an extension of time is required to make this response timely, this paper should be considered to be such a petition. The Patent Office is hereby authorized to charge any other required fees, and to credit any overpayment, to our Deposit Account No. 03-3125.

If a telephone interview could advance the prosecution of this application, the Examiner is respectfully requested to call the undersigned attorney.

Respectfully submitted,

  
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